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CR-138647

FIFTH QUARTERLY PROGRESS REPORT

(1 April - 30 June 1974)

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APPLICABILITY OF SKYLAB

REMOTE SENSING FOR DETECTION AND
MONITORING OF SURFACE MINING ACTIVITIES

SKYLAB EREP INVESTIGATION 9669

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N74-28816

(E74-10572) APPLICABILITY OF SKYLAB

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Quarterly Progress (Wolf Research and

Development Corp.) 4 p HC \$4.00 CSCL 081

Unclass

G3/13 00572

WOLF RESEARCH AND DEVELOPMENT CORPORATION

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July 1974

TABLE OF CONTENTS

	<u>Page</u>
1.0 INTRODUCTION-----	1
2.0 PROGRESS (1 April 1974 to 30 June 1974)-----	2
3.0 PROBLEMS-----	2
4.0 PLANS-----	2
5.0 DISTRIBUTION-----	3

1.0 INTRODUCTION

The objective of this investigation is to evaluate EREP imagery as a means of detecting and monitoring strip mines, their environmental effects, and reclamation activities. EREP S-190A and S-190B imagery of a tri-state test area will be analyzed, and some S-192 thermal imagery during a night time pass is desired in hopes of detecting acid waste waters whose temperatures might exceed those of the surrounding environment.

Initially, the investigation will consist of a census of active and inactive strip mines along with estimates of disturbed and reclaimed acreage. Notable damage to the environment will also be included.

The primary test site (816556) extends from latitude 39°00'N to 40°30'N, and longitude 80°00'W to 83°00'W; and encompasses portions of Ohio, West Virginia, and Pennsylvania. The alternate test site (816557) extends from latitude 37°00'N to 39°00'N, and longitude 86°00'W to 80°00'W; and encompasses portions of Indiana, Kentucky, and Illinois.

2.0 PROGRESS

A minimum of effort was expended during this reporting period because:

- a) SL-2 and SL-3 imagery received of the primary test area were degraded by haze and cloud coverage, and are not suitable for our investigation.
- b) SL-4 imagery of the test area was not received during this reporting period. Preliminary indications from Mr. Dale Brown at JSC are that the SL-4 data of our primary test area are, at best, marginal.

3.0 PROBLEMS

The lack of adequate image quality within the primary test area requires the selection of a secondary test site for investigation. This will necessitate some additional ground-truth effort and a potential time extension of the contract.

4.0 PLANS

Mr. Pennewell of the Wolf Team will attend the conference at the L.B. Johnson Space Center during July 16, 17, & 18. He will review imagery of the secondary test site area and select the new test site areas based upon data available. New schedules and milestone plans will be formulated and submitted.